

**U.S. Environmental Protection Agency  
Science Advisory Board  
Contaminated Sites and RCRA Multi-Year Plan Advisory Panel Biosketches**

<b>Contaminated Sites and RCRA Multi-Year Plan Advisory Panel</b>	
Clark, James	<p>James R. Clark: Dr. Clark is an Distinguished Scientific Associate who joined Exxon in 1992, after a twelve-year career as a research biologist with the US Environmental Protection Agency. He earned a B.S. in Fisheries at the University of Michigan, and an M.S. and Ph.D. in Zoology and Aquatic Ecology from Virginia Polytechnic Institute and State University (Virginia Tech). Dr. Clark has extensive experience in laboratory and field assessments of petroleum industry products and activities, complex effluents, contaminated soils and sediments as well as pesticides and industrial chemicals. He has developed and applied ecological hazard and risk assessment approaches to address a wide variety of environmental issues. Dr. Clark was responsible for environmental assessments of the bioremediation technology developed and applied during the Alaskan Oil Spill clean-up program. Currently, he heads ExxonMobil's Oil Spill Research Program and plays a corporate and industry leadership role in the development and evaluation of environmentally relevant techniques and strategies for oil and chemical spill response. Dr. Clark is active in several professional/technical organizations involved with ecological risk assessment and serves on a number of professional, academic, and governmental advisory panels. These include serving as an appointed member of USEPA's ORD Board of Scientific Councilors (since 2000); participation in the American Chemistry Council Long-Range Research Program Technical Implementation Panel for Ecosystem Dynamics, Environmental Exposure, Ecological Risk Assessment / Risk Management (Co-Chair 1996-2001); and serving on the Science Advisory Committee for the University of MD Multiscale Experimental Ecosystem Research Center, a USEPA-funded program (1992-2001). Dr. Clark serves on the editorial board of the Journal of Human and Ecological Risk Assessment (since 1992), and has served two, three-year terms on the editorial board for Environmental Toxicology and Chemistry (1986-1989; 1991-1994). He is an active member of the American Association for the Advancement of Science, Ecological Society of America, and Society for Environmental Toxicology and Chemistry. Dr. Clark has authored over 70 peer-reviewed publications, and 90 presentations at national meetings and symposia.</p>

Crittenden, John C.	<p>John C. Crittenden is Richard Snell Presidential Chair of Civil and Environmental Engineering,, Department of Civil and at Arizona State University. He received a B.S. in Chemical Engineering and was awarded M.S. and PhD in Civil and Environmental Engineering by the University of Michigan. Dr. Crittenden's main research and teaching interests have been in these areas: Sustainability, Pollution Prevention, Physical-Chemical Treatment Processes (Ion Exchange, Oxidation processes, Catalytic Oxidation, Photocatalytic Oxidation, Electrocatalysis, Adsorption, Electro-Adsorption, Air Stripping), Transport of Organics in Saturated and Unsaturated Groundwater, Modeling of Fixed-Bed Reactors and Adsorbers (Photocatalysis, Low Temperature Catalysis in Aqueous and Gas Phases, Transport of Organics in Saturated and Unsaturated Groundwater), Sol-Gel Chemistry for Preparation of Zeolites and Catalysts, Surface Chemistry and Thermodynamics (Prediction of Adsorption Capacities and Surface Catalyzed Rate Constants), Mass Transfer, Numerical Methods, Modeling of Wastewater and Water Treatment Processes. Dr. Crittenden has successfully directed over 36 research projects with a total budget of over 20 million dollars. Some of the more notable projects he has been responsible for include: 1) Center for Clean Industry and Treatment Technologies (This is a 8 year project funded at a level of 10 million dollars.); 2) the development of a process which uses sunlight or artificial lights, photocatalysts and adsorbents to destroy aqueous and gas phase organic contaminants; and 3) an evaluation of the water treatment system for the space station Freedom. The research projects which he has directed or been involved with over the past 20 years have resulted in over 100 publications including reports, journal articles, 2 patents, contributions to colloquia and conferences, and a book. Dr. Crittenden and his students have received 14 national awards including the ASCE Huber Research Prize, two American Water Works Association best paper awards, two Water Environment Federation best paper awards, and the ASCE Rudolph Hering medal. In recognition of Dr. Crittenden's contributions to engineering, he was elected to the National Academy of Engineering in 2002. Dr. Crittenden is Director of the Sustainable Technologies Program at Arizona State and Associate Editor of Environmental Science and Technology.</p>
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Dellinger,H. Barry	<p>Dr. Barry DellingerDr. Barry Dellinger is the Patrick F. Taylor Chair of the Environmental Impact of Treatment of Hazardous Wastes and Professor of Chemistry at Louisiana State University. He is the Director of the LSU Intercollege Environmental Co-operative. He is a member of the US-EPA Science Advisory Board Environmental Engineering Committee. From 1981 to 1998, he was Group Leader of Environmental Sciences and Engineering at the University of Dayton where he also held a joint faculty appointment. From 1978-1981 he was a Senior Project Scientist at Northrop Services Inc. He was a post-doctoral fellow at the University of Pennsylvania from 1976-1978. He holds a Ph.D in Physical Chemistry from Florida State University and B.S. in Chemistry from the University of North Carolina at Chapel Hill. His research interests include origin and control of toxic combustion by-products, mechanisms of formation and reactivity of combustion-generated nanoparticles, pathways of formation of dioxins, gas-phase/surface catalyzed elementary reaction kinetics, and thermal treatment of hazardous wastes,. He is a recipient of the Charles A. Lindberg Certificate of Merit, the Engineering and Science Foundation Award for Outstanding Professional Achievement, the Wohleben-Hochwald Researcher of the Year Award, the Ohio General Assembly Award for Research Excellence, and co-recipient of numerous EPA STAR research awards. He currently serves as the Chair of the Steering Committee of the International Congress on Toxic Combustion By-Products and the Board of the Diagnostic Instrumentation and Analysis Laboratory at Mississippi State University. Ongoing Grants and Contracts § National Science Foundation (09/01/2003 - 08/31/2006) Project title: The Origin and Nature of Persistent, Combustion-Generated Radicals § National Science Foundation (09/01/2003 - 09/01/2004) Project title: Wide-Area 2D IR Tomography for Tracking and Neutralization of Reactive Plumes § EPA (09/04/2000 - 09/31/2004) Project title: Toward the Development of a Detailed Mechanism of Transition Metal Catalyzed Formation of PCDD/F from Combustion-Generated Hydrocarbons § NIEHS (10/01/2002 - 12/31/2004) Project title: International Congress on Toxic Combustion By-Products § Phillip Morris, USA (07/29/2002 - 06/20/2004) Project title: Investigation of Persistent Radicals in Tobacco Smoke.</p>
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Dzombak,David	<p>David A. Dzombak is a Professor of Civil and Environmental Engineering at Carnegie Mellon University, a registered Professional Engineer in Pennsylvania, and a Diplomat of the American Academy of Environmental Engineers. He holds a Ph.D. in Civil-Environmental Engineering from the Massachusetts Institute of Technology, an M.S. in Civil-Environmental Engineering from Carnegie Mellon University, a B.S. in Civil Engineering from Carnegie Mellon University, and a B.A. in Mathematics from Saint Vincent College. Dr. Dzombak's expertise is in water and soil/sediment quality engineering, especially the fate and transport of chemicals in subsurface systems and sediments, wastewater treatment, in situ and ex situ soil/sediment treatment, hazardous waste site remediation, and abandoned mine drainage remediation. Dr. Dzombak has served on the National Research Council Committee on Bioavailability of Contaminants in Soils and Sediments, and on various research review panels for the Department of Defense, Environmental Protection Agency, National Institute of Environmental Health Sciences, and National Science Foundation. He has also served on the Board of Directors and as an Officer of the Association of Environmental Engineering and Science Professors; as chair of committees for the American Academy of Environmental Engineers, American Society of Civil Engineers, and Water Environment Federation; and on advisory committees for various community and local government organizations, and for the Commonwealth of Pennsylvania. Dr. Dzombak was elected a Fellow of the American Society of Civil Engineers in 2002. Other recent awards and honors include an Aldo Leopold Leadership Program Fellowship from the Ecological Society of America and The David and Lucile Packard Foundation in 2000, the Professional Research Award from the Water Environment Association of Pennsylvania in 2002, and the Jack Edward McKee Medal from the Water Environment Foundation in 2000. Dr. Dzombak's research support over the past two years has come from Alcoa, David and Lucile Packard Foundation, Gas Technology Institute, National Science Foundation, Pennsylvania Infrastructure Technology Alliance, U.S. Environmental Protection Agency, and the Water Environment Research Foundation</p>
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Eighmy, T. Taylor	<p>Taylor Eighmy is a Research Professor of Civil Engineering at the University of New Hampshire (UNH). He received his B.S. in Biology from Tufts University in 1980, his M.S. in Civil Engineering from UNH in 1983, and his Ph.D. in Engineering (Civil) from UNH in 1986. Dr. Eighmy directs the Environmental Research Group (ERG), an applied environmental engineering and environmental science research center at UNH. He also directs the Recycled Materials Resource Center (RMRC), a partnership with the Federal Highway Administration, to promote the wise use of recycled materials in highway construction. He presently serves on the Advisory Board of the New Hampshire Estuaries Project, a partnership between the New Hampshire Office of State Planning and the U.S. EPA's National Estuaries Program. He also serves on the National Steering Committee of the U.S. DOE's Combustion Byproduct Recycling Consortium. Formerly, he was appointed to and served on the New Hampshire Waste Management Council (1988-1995); the Council has solid and hazardous waste adjudicatory and rule making authority. He was a member of the International Ash Working Group (IAWG), sponsored by the International Energy Agency, and coauthored the treatise "Municipal Solid Waste Incinerator Residues" with his IAWG colleagues. He received the UNH Excellence in Research Award in 1997. He has research interests in recycled materials characterization and beneficial use, chemical speciation, environmental chemistry of leaching behavior, spectroscopic surface analysis, applied geochemistry, reactive barriers, and environmental microbiology. Dr. Eighmy's present research focus is on contaminant leaching and leaching modeling, use of surface spectroscopies to characterize surfaces where leaching first occurs, contaminant fate and transport in beneficial use scenarios within the highway environment, phosphate stabilization of wastes, use of phosphate-based reactive barriers (both permeable and impermeable) for waste containment, and geochemical and microbial characterization of microfracture surfaces in TCE-contaminated bedrock. His present research is supported by FHWA, NOAA, U.S. EPA, the European Union, and the private sector.</p>
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Hughes, Joseph B.	<p>Joseph B. Hughes is Professor and Chair in the School of Civil and Environmental Engineering at Georgia Institute of Technology. After earning a B.A. in Chemistry from Cornell College in Mount Vernon, Iowa, he was awarded and M.S. and Ph.D. in Civil and Environmental Engineering from The University of Iowa. Dr. Hughes is a Registered Professional Engineer in the State of Texas. His research interests lie in the area of biological treatment of wastes and the bioremediation of contaminated sites, soil, and groundwater, especially anaerobic processes. He is Member and Chair, West Coast Hazardous Substances Research Center Science Advisory Board, 2002-present, member of the Association of Environmental Engineering and Science Professors (AEESP) Strategic Planning Committee, 2002 and of the National Research Council Committee on Bioavailability of Contaminants in Soils and Sediments, 2000 to present.</p>
Kim, Byung	<p>Byung R. Kim is Technical Leader in the Physical and Environmental Sciences Department of Ford Research and Advanced Engineering, Dearborn, MI and is a professional engineer. He received the B.S. degree in Civil Engineering from Seoul National University in Korea in 1971 and M.S. and Ph.D. degrees in Environmental Engineering from the University of Illinois, Urbana, IL in 1974 and 1977, respectively. Before joining Ford, he worked as an environmental engineer for Tennessee Valley Authority, taught at the Georgia Institute of Technology, and was a researcher at General Motors Research Laboratories. His current research interest is in understanding various manufacturing emission issues (physical/chemical/biological waste treatment processes and the overall environmental impact of manufacturing processes). He also has worked on the adsorption of organics on activated carbon and water quality modeling. He has served on EPA SAB Environmental Engineering Committee and was Editor of the Journal of Environmental Engineering, American Society of Civil Engineers (ASCE). He served on the advisory board for the National Institute of Environmental Health Superfund Basic Research Program at the University of Cincinnati. He received a Richard R. Torrens Award for editorial leadership from ASCE and two Willem Rudolfs Medals from Water Environment Federation on his publications in industrial wastes. He has not received any external research funding in the last few years.</p>

Koshland, Catherine	<p>Catherine P. Koshland is the Wood-Calvert Professor in Engineering at the University of California, Berkeley, and Professor in Energy and Resources and in Public Health (Environmental Health Sciences). She is a director and Secretary of the Combustion Institute, and serves on the editorial board of Combustion, Science and Technology. In 1999, she joined a distinguished group when she presented the Nineteenth Annual Steven Manly Memorial Lecturer at the University of California at Santa Barbara. At Berkeley, she is the Chair of the Academic Senate during 2002-2003; she served as Vice-Chair from January 2001-July 2002. She has been a member of the Integrated Human Exposure Committee of the EPA's Science Advisory Board since 2001. Professor Koshland graduated with a B. A. in Fine Arts from Haverford College, studied painting at the New York School of Drawing, Painting and Sculpture, and received her M. S in 1978 and her Ph.D. in 1985. in Mechanical Engineering from Stanford University. She joined the U. C. Berkeley faculty in 1984. She teaches engineering, energy and environmental health, emphasizing mechanistic approaches as well as a systems perspective. Professor Koshland's research is at the intersection of energy, air pollution and environmental (human) health. It is conducted at multiple scales, from mechanistic analyses of combustion products in flow reactors to control strategies in urban airsheds.. Her combustion research has focused on pollutant formation particularly involving chlorinated hydrocarbons and particulates, and the development of advanced diagnostic tools for non-intrusive monitoring of combustion species including chlorinated hydrocarbons, metals and particles. She has worked in green manufacturing and industrial ecology, addressing the conception and assessment of environmental and health dimensions to improve energy and manufacturing technologies. Her work includes critical assessments of regulatory policy. Prof. Koshland served on the California Air Resources Board Research Screening Committee from 1998-2002. Prof. Koshland is Associate Director of the UC Berkeley Superfund Basic Research Program, and Director of Health Effects of Modern Technologies, the Berkeley component of the UC Toxic Substances Research and Teaching Program. She has served on numerous committees at Berkeley, including the Berkeley Campus Strategic Planning Committee from 2000-2002.. A member of the Haverford College Board of Managers since 1994, she has served as its Vice Chair since 1999.</p>
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Lifset, Reid	<p>Reid J. Lifset is the Associate Director of the Industrial Environmental Management Program and a member of the faculty at the Yale University School of Forestry and Environmental Studies. He did his graduate work in political science at the Massachusetts Institute of Technology and in management at Yale University. His research focuses on the application of industrial ecology to novel problems and research areas, and the evolution of extended producer responsibility. He is currently principle investigator on the Luce Foundation-funded project "Collaborative Industrial Ecology in Asia", a co-principal investigator in the Stocks and Flows (STAF) project at the Yale Center for Industrial Ecology, funded by the National Science Foundation (NSF) and the Nickel Development Institute (NiDI). He is a co-principal investigator on National Institute of Standards &amp; Technology (NIST) and NSF-funded projects on the environmental assessment of bio-based materials. Other recent sources of support include the Garfield Foundation, the U.N. Environment Program and the Hixon Center for Urban Ecology at Yale. He is the editor-in-chief of the Journal of Industrial Ecology, an international quarterly on industry and the environment, headquartered at and owned by Yale University and published by MIT Press. He has served as a consultant to the Science Advisory Board of the U.S. EPA, and is a member of the governing council of the International Society for Industrial Ecology (ISIE), and the Science Advisory Board of Material Flow Analysis for Sustainable Resource Management (MFAStorM) of the Scientific Committee on Problems of the Environment (SCOPE).</p>
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McFarland, Michael J.	<p>Dr. Michael J. McFarland received his bachelors' degree in Engineering and Applied Science from Yale University, his masters' degree in Chemical Engineering from Cornell University, his Ph.D. in Agricultural Engineering from Cornell University and completed his postdoctoral research program in the Dept. of Civil and Environmental Engineering at the University of Texas at Austin. Dr. McFarland is currently an associate professor in the Department of Civil and Environmental Engineering at Utah State University where his research interests are focused in the areas of air quality management, biosolids engineering, industrial waste management and pollution prevention. Dr. McFarland has served on numerous federal, state and local environmental engineering and public health advisory committees for the US Dept. of Defense, US Environmental Protection Agency, US Dept. of Energy, National Science Foundation, Utah Dept. of Environmental Quality and Cache County, Utah. Dr. McFarland has authored or coauthored over fifty publications in the field of environmental engineering including the recent textbook "Biosolids Engineering" (McGraw-Hill, 2001) as well as numerous research journal articles, conference proceedings and professional engineering (PE) licensing workbooks. Dr. McFarland is a registered professional engineer in the State of Utah and currently holds Grade IV operator certifications for both wastewater and water treatment. Dr. McFarland is a Diplomat of the American Academy of Environmental Engineers (AAEE) as well as a member of several professional environmental science and engineering organizations including the Water Environment Federation (WEF), Society for Risk Analysis, National Biosolids Partnership and the Association of Environmental Engineering and Science Professors (AEESP).</p>
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Powers, Susan E.	<p>Susan E. Powers is a Professor in the Department of Civil and Environmental Engineering at Clarkson University. She received her PhD in Environmental Engineering from the University of Michigan in 1992. Dr. Powers' research has focused on understanding the physical and chemical phenomena associated with contaminant transport in subsurface systems, with specific emphasis on organic non-aqueous phase liquids (NAPLs) in complex systems. Her research on NAPL dissolution, the wettability of NAPL-water-mineral systems and the fate of ethanol-blended gasoline in the subsurface is widely cited and considered at the leading edge in her field. Experimental and mathematical modeling techniques are utilized in all research activities. Research that has provided a solid understanding of the environmental fate of oxygenated gasoline has lead to an interest in the application of this science to aid in regulatory and policy decisions. Current projects in this area include life cycle management issues for gasoline, other transportation fuels and energy systems in general. Funding for her research projects has been received from the EPA STAR program, NSF, DOE 's Environmental Science Management Program and the State of California through LLNL. Dr. Powers has been an invited participant at many workshops and symposia related to the environmental impacts of reformulated gasoline. She has served on the Board of the Association of Environmental Engineering and Science Professors and the editorial boards for the Journal of Environmental Engineering, Advances in Water Resources and the Journal of Contaminant Hydrology.</p>
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Rood,Mark	<p>Mark J. Rood is a Professor of Environmental Engineering and Coordinator of the Environmental Engineering and Science Program in the Department of Civil and Environmental Engineering at University of Illinois (Urbana-Champaign). He received his B.S.E. degree in Environmental Engineering from Illinois Institute of Technology and his M.S.E. and Ph.D. degrees in Environmental Engineering from University of Washington. Professor Rood's research and teaching interests are in the areas of pollution prevention, physical-chemical treatment processes (adsorption, absorption, and plasma processes), aerosol optics and chemistry, and the characterization of ambient aerosols with respect to atmospheric chemistry and climate forcing. He has published over 60 peer-reviewed manuscripts, more than 100 conference proceedings and reports, and one patent. Professor Rood and his students have received more than 17 national awards from the Association of Environmental Engineering and Science Professors, Air and Waste Management Association, American Carbon Society, and American Chemical Society. His distinguished service is recognized with his past appointment as Treasurer and member of the Executive Board of the Association of Environmental Engineering and Science Professors, as an associate editor for the Journal of Air and Waste Management Association, and as the Editor-In-Chief of Journal of Environmental Engineering. Professor Rood's research has been supported by Department of Defense, National Science Foundation, National Oceanic and Atmospheric Administration, and Grainger Foundation.</p>
Shaw,Bryan	<p>Bryan W. Shaw, Ph.D., is an Associate Professor and member of the Center for Agricultural Air Quality Engineering and Science in the Biological &amp; Agricultural Engineering Department, Texas A&amp;M University. He received his Bachelor of Science and Master of Science degrees in Agricultural Engineering from Texas A&amp;M University and his Ph.D. in Agricultural Engineering from the University of Illinois at Urbana-Champaign. Dr. Shaw teaches and conducts air quality research on topics including development of accurate emission factors for feed and grain handling, emissions from cattle feed yards, development of air pollution dispersion models, and fugitive dust emissions from field operations. Dr. Shaw recently spent one year working with USDA-NRCS as Special Assistant to the Chief under an Interagency Personnel Agreement. In this role he provided national leadership in the development of policies and programs to address agricultural air quality concerns.</p>

Smith, John R.	<p>John R. Smith has over 25 years experience in the environmental sciences and engineering field where he has dealt with numerous aspects of site remediation, treatment of plant process waters and wastewaters, and sustainable development technology initiatives. He has a Ph.D. in Civil/Environmental Engineering from Carnegie-Mellon University and is a registered professional engineer in Pennsylvania. Dr. Smith is recipient of the Best Research Paper Award from the American Society of Civil Engineers Practice Periodical in 2001, the Jack Edward McKee Medal from the Water Environment Foundation in 2000, and the Linn H. Enslow Memorial Award from the New York State Water Association in 1994. He is currently employed with Alcoa Inc. and is also an Adjunct Professor in the Civil/Environmental Engineering Department at Carnegie-Mellon University. At Alcoa Inc., Dr. Smith manages the EHS Sciences &amp; Technology Section. Presently, his main focus is to establish sustainable development initiatives within Alcoa via the innovative integration of EHS (environment, health, safety) into all new and existing products and production processes. Such work specifically relates to developing, evaluating and implementing technically viable and cost-efficient ways to treat, minimize and/or eliminate water and wastewater discharges, solid waste generation, and air pollutant discharges by addressing such issues via innovative modifications to production process and/or operations, rather than the more conventional end-of-pipe treatment approaches. Focus is also given to implementing energy efficiency, safe work practices and providing a healthy work environment associated with production operations. Here, the ultimate goal is to first address, and then move beyond, EHS compliance in a cost-efficient manner while at the same time moving towards more efficient production and more sustainable products, thus providing Alcoa, their employees and the communities in which they operate with a safe and sustainable future. Dr. Smith also provides remediation consulting within Alcoa on strategically significant issues.</p>
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Thompson, Timothy	<p>Mr. Thompson is a senior environmental scientist with The RETEC Group, and is a nationally recognized leader in the field of characterization and management of contaminated sediments. He received his B.Sc. in Agricultural Sciences from the University of Arizona, his M.Sc. in Ocean Sciences from the University of British Columbia, and was a Monbusho Fellow, at the University of Nagasaki and Tokyo Fisheries University, Japan. In his 17 years of experience, Mr. Thompson has served as program manager and principal scientist for several large contaminated sediment programs under CERCLA and RCRA, and has particular expertise in sediment capping design and implementation. His current work in sediments also includes habitat evaluations and integration of field data with spatial modeling tools, spatial characterization and statistical analysis of bedded sediment data, bedded sediment characterization, water quality monitoring, and ecological risk assessment. He is a member of EPA's Science Advisory Board Environmental Processes and Effects Committee, and sits on request with the Environmental Engineering Committee. He is a peer reviewer for the Hudson River CERCLA Ecological Risk Assessment and for the Engineering Performance Standards. He also recently completed peer review for the Housatonic River Ecological Risk Assessment. His recent contract experience includes both industry and federal/state agencies, ranging from large multi-national oil firms to the U.S. Navy and the Corps of Engineers. Mr. Thompson has numerous publications on ecological risk assessment, contaminated sediment management, and sediment capping techniques.</p>
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